

Appl. No. : 10/782,680
Filed : February 18, 2004

IN THE CLAIMS

Please amend Claims 34, 46-51, and 57-60, cancel Claims 12-24, 35-45, 55-56, 65, and 67-72 without prejudice, and add new Claims 73-81 as follows:

5 1. – 33. (Cancelled)

34. (Currently amended) A head-end apparatus adapted for providing a network-specific on-demand application to consumer premises equipment (CPE) of said network, the apparatus comprising:

at least one computer; and

10 at least one computer program adapted to develop a specific protocol useful in implementing said on-demand application according to the method comprising:

developing a set of first components adapted to communicate between said head-end and said CPE, said communication comprising:

establishing a communications session between said head-end and

15 said CPE;

specifying to said CPE a channel on which on-demand content may

be accessed by said CPE; and

sending or receiving at least one message regarding functional modes;

20 developing a set of second components adapted to process said on-demand content delivered to said CPE; and

developing a set of third components adapted to cooperate with individual ones ~~at least one~~ of said first and second components to control said functional modes specific to said on-demand application;

25 wherein each component of said set of first components, said set of second components, and said set of third components is associated with an individual one of a plurality of different multiple systems operator (MSO) environments; and

wherein, in response to a request for a particular application from a CPE within a given an individual one of said plurality of different MSO ~~network~~ environments, said

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computer program of said head-end apparatus further assembling and delivering selects for assembly and delivery individual ones of said set of first components, said set of second components, and said set of third components associated with said selection comprising selection of individual ones of said sets specific to said given individual one of said plurality of different MSO environments.

35. – 45. (Cancelled)

46. (Currently amended) Customer premises equipment (CPE) adapted for operation within a content based network offering on-demand services according to at least one network-specific protocol, said CPE comprising:

a storage device; and

a digital processor operatively coupled to said storage device, said digital processor adapted to run at least one first software application stored on said storage device, said first software application having permissions from an OCAP monitor and comprising a plurality of components adapted to, when executed on said processor:

communicate between said CPE and another entity of said network;

process the content delivered to said CPE; and

enable a user of said CPE to control, via a user interface, playback of said content according to said network-specific protocol;

wherein said software application at least one of said plurality of components

comprises a shared component which is adapted to be utilized by more than one or more second applications also having permissions from an OCAP monitor and simultaneously running on said CPE.

47. (Currently amended) The CPE of Claim 46, wherein said CPE comprises a digital settop box (DSTB) with Java-based middleware, and said at least one first software application comprises at least one class and at least one interface disposed within the an application directory hierarchy.

48. (Currently amended) The CPE of Claim 47, wherein said CPE is adapted to:

receive said at least one first application over said network; and

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subsequent to said receipt, launch said at least one first application to configure at least one path to said at least one of said plurality of components.

49. (Currently amended) The CPE of Claim 48, wherein said CPE further comprises a plurality of said second applications, said plurality of ~~other~~ said second applications being enabled to access said at least one component via at least one of said at least one configured paths.

50. (Currently amended) A method of developing the specific protocol useful for delivery of content from a first node of a network to a second node thereof via a server entity of said first node, the method comprising:

~~developing receiving~~ a plurality of media interface components, individual ones of said components adapted to implement different ones of a plurality of network-specific protocol;

developing a configured application by ~~disposing~~ selecting individual ones of said plurality of components to be utilized within a single software application; and

developing at least one path to said selected individual ones of said plurality of media interface components, said path being accessible only to authorized entities;

wherein said at least one path and said media interface components cooperating cooperate to provide network specific on-demand services; and

wherein multiple paths to said individual ones of said plurality of media interface components may be utilized to enable simultaneous use of said individual ones of said plurality of media interface components in multiple distinct software applications.

51. (Currently amended) The method of Claim 50, wherein said configured application is run on a consumer premises equipment (CPE).

52. (Previously presented) The method of Claim 51, wherein said act of developing a plurality of media interface components comprises developing a plurality of Java Media Framework components.

53. (Previously presented) The method of Claim 52, wherein said act of disposing said plurality of media interface components comprises disposing a plurality of classes and interfaces within the directory hierarchy structure of said application.

54. (Previously presented) The method of Claim 51, wherein said act of disposing said plurality of media interface components comprises:

providing said components to said CPE;

providing said software application to said CPE; and

assembling said configured application at said CPE using at least said components and said software application.

55. – 56. (Cancelled)

57. (Currently amended) The head-end apparatus of Claim 34, wherein at least one of said first set of components comprises a Java DataSource.

58. (Currently amended) The head-end apparatus of Claim 57, wherein at least one of said second set of components comprises a Java MediaHandler.

59. (Currently amended) The head-end apparatus of Claim 58, wherein at least one of said third set of components comprises a controller adapted to access said ~~first component~~ Java DataSource to cause said at least one message to be sent between said head-end and said CPE, said at least one message causing at least one corresponding functional mode to be invoked.

60. (Currently amended) The head-end apparatus of Claim 34, wherein said act of developing said set of [[a]] second components further comprises developing a player component adapted for implementing at least one of said set of second components.

61. – 72. (Cancelled)

73. (New) Customer premises equipment (CPE) adapted for operation within a content delivery network offering one or more services each utilizing a network-specific protocol, said CPE comprising:

a storage device, said storage device adapted to store a plurality of components utilized by said one or more services thereon; and

a digital processor in data communication with said storage device, said digital processor adapted to run a first software application and a plurality of second software applications, said first and said second software applications stored on said storage

device;

wherein said first software application has permissions from an OCAP monitor application to permanently identify individual ones of said plurality of components within said CPE by attachment of prefixes to each; and

wherein said plurality of second software applications utilize said prefixes to make use of said individual ones of said plurality of components, thereby sharing these across multiple applications.

74. (New) The CPE of Claim 73, wherein at least one of said plurality of second software applications comprises an application adapted to:

enable communication between said CPE and another entity of said network;
process content delivered to said CPE; and

enable a user of said CPE to control, via a user interface, playback of said content according to said network-specific protocol.

75. (New) The CPE of Claim 73, wherein said CPE comprises Java-based middleware.

76. (New) The CPE of Claim 75, wherein each of said plurality of second software applications utilizes a Java virtual machine (JVM), and said prefixes comprise Java media framework (JMF) commit prefixes, said commit prefixes of said individual ones of said plurality of components being called by said JVM to incorporate the functionality thereof.

77. (New) The CPE of Claim 73, wherein said individual ones of said plurality of components are arranged in a hierarchy such that said plurality of second software applications are only permitted access to certain ones of said plurality of components.

78. (New) A method of developing one or more specific protocols useful for delivery of media content from a network, said method comprising:

receiving at a consumer premises device a plurality of media interface components;

modifying a path identifier of individual ones of said plurality of media interface

components; and

enabling said individual ones of said media interface components to be called by more than one software application via said modified path identifiers;

wherein said individual ones of said plurality of media interface components are each useful with individual ones of said one or more specific protocols;

wherein redundancy is eliminated by enabling said more than one software applications to be developed by calling one or more of said individual ones of said components via respective ones of said path identifiers simultaneously.

79. (New) The method of Claim 78, wherein each of said more than one software applications comprises a Java virtual machine (JVM) and is configured to call said individual ones of said plurality of media interface components via said modified path identifiers.

80. (New) The method of Claim 79, wherein said plurality of media interface components comprise Java Media Framework (JMF) components configured to:

communicate between said consumer premises device and another entity of said network;

process said media content delivered to said consumer premises device; and enable a user of said consumer premises device to control, via a user interface, playback of said media content according to one of said one or more specific protocols.

81. (New) The method of Claim 79, wherein said individual ones of said plurality of media interface components are each disposed within a directory hierarchy structure of a second application accessible to said more than one software applications.